

Title (en)
Thermally enhanced semiconductor carrier

Title (de)
Thermisch verbesserter Halbleiterträger

Title (fr)
Support puce thermiquement amélioré

Publication
EP 1134804 A3 20030806 (EN)

Application
EP 01000049 A 20010309

Priority
US 18974100 P 20000316

Abstract (en)
[origin: EP1134804A2] A reliable, chip scale or flip chip semiconductor device which can be directly attached to a PC board without the use of an underfill material to absorb stress on the solder joints interconnecting the device and board is provided by a silicon chip, having the substrate thinned until the chip thickness is in the range of 50 to 250 microns, attaching a backing or cap layer with specific thermal properties to approximate those of a printed circuit board (PCB), and providing solder bump contacts attached to the input/output terminals. <IMAGE>

IPC 1-7
H01L 23/373; **H01L 23/498**; **H01L 23/31**

IPC 8 full level
H01L 23/29 (2006.01); **H01L 21/56** (2006.01); **H01L 21/60** (2006.01); **H01L 23/12** (2006.01); **H01L 23/31** (2006.01); **H01L 23/36** (2006.01); **H01L 23/373** (2006.01); **H01L 23/498** (2006.01)

CPC (source: EP US)
H01L 23/3114 (2013.01 - EP US); **H01L 23/36** (2013.01 - EP US); **H01L 23/373** (2013.01 - EP US); **H01L 23/49816** (2013.01 - EP US); **H01L 2224/0557** (2013.01 - EP US); **H01L 2224/16** (2013.01 - EP US); **H01L 2224/73253** (2013.01 - EP US); **H01L 2924/01067** (2013.01 - EP US); **H01L 2924/01079** (2013.01 - EP US); **H01L 2924/01087** (2013.01 - EP US); **H01L 2924/10253** (2013.01 - EP US); **H01L 2924/351** (2013.01 - EP)

C-Set (source: EP US)
H01L 2924/10253 + **H01L 2924/00**

Citation (search report)

- [XA] WO 0011919 A1 20000302 - KULICKE & SOFFA HOLDINGS INC [US]
- [XA] US 5273940 A 19931228 - SANDERS PAUL W [US]
- [A] EP 0203591 A2 19861203 - TEKTRONIX INC [US]
- [A] PATENT ABSTRACTS OF JAPAN vol. 018, no. 022 (E - 1490) 13 January 1994 (1994-01-13)

Cited by
EP1903834A1; EP3732716A4; US11348897B2

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
EP 1134804 A2 20010919; **EP 1134804 A3 20030806**; **EP 1134804 B1 20120222**; AT E546834 T1 20120315; JP 2001291801 A 20011019; US 2001048157 A1 20011206; US 2005140025 A1 20050630; US 6900534 B2 20050531

DOCDB simple family (application)
EP 01000049 A 20010309; AT 01000049 T 20010309; JP 2001074456 A 20010315; US 6549305 A 20050224; US 79094601 A 20010222